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ABSTRACT

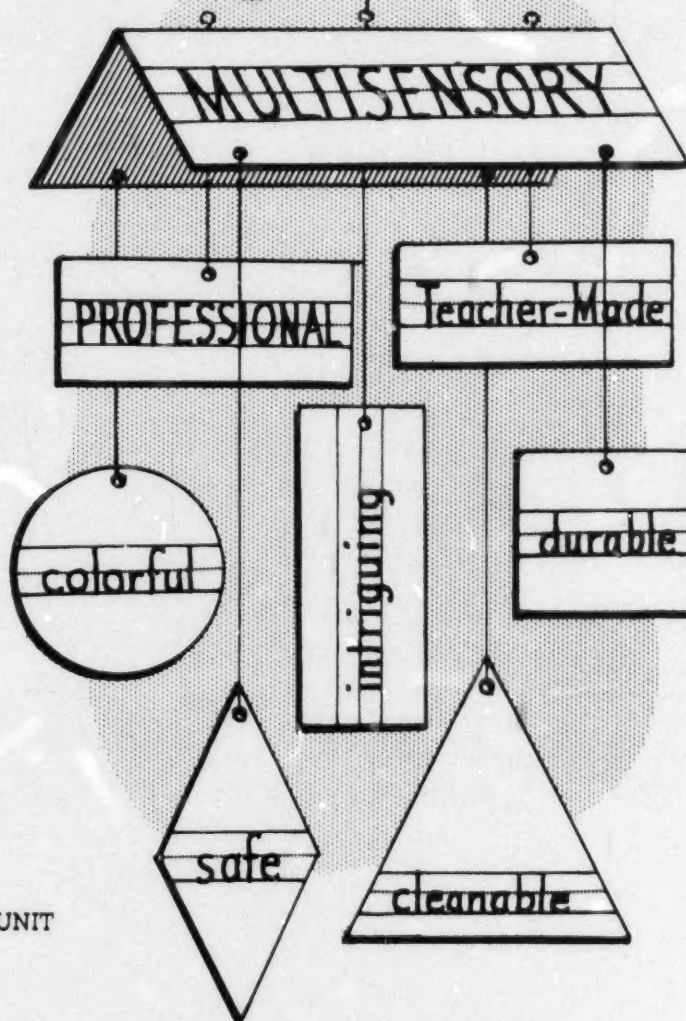
Presented are the agenda and description of a 5-day institute for special education teachers held by the Detroit Public Schools in August 1973. Noted are institute purposes including the exploration of diagnostic tools, the development of teacher-made diagnostic instruments, and instruction in construction techniques and use of teaching aids. The description, in the form of a diary by a hypothetical institute participant, includes reactions to presentations (such as use of psychological evaluations by a psychologist), reports of small group activities (such as construction of masters for professionally appearing duplicated worksheets), and lists of materials used. Also listed are instructional aids displayed on 16 tables each focusing on a particular skill such as motor skill or tactile discrimination. Sample class activities and materials shared by institute participants are summarized. The institute description ends with highly positive evaluations in both prose and poetry. (DB)

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EDUCATION - SPECIAL EDUCATION UNIT

learning-aids

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INSTITUTE FOR SPECIAL EDUCATION TEACHERS

DETROIT PUBLIC SCHOOLS

FEDERAL INSTITUTE - AUGUST, 1973

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Sponsored by: Michigan Department of Education
Division of Special Education in
cooperation with Detroit Public Schools

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Glennis Syroid
Special A Teacher
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FOREWORD

The INSTITUTE FOR SPECIAL EDUCATION TEACHERS was held in Detroit, Michigan. The purpose of the institute was to meet the following objectives:

- (1) to explore diagnostic tools for planning meaningful learning experiences in the areas of communication and number skills
- (2) to develop teacher-made diagnostic instruments to serve as a rationale for planning teaching strategies
- (3) to share and to review ideas for classroom activities in the curriculum areas under consideration
- (4) to learn many techniques of constructing professional looking teaching aids
- (5) to learn to use a variety of materials in the construction of learning aids

Ann McCarthy, Evaluative Services Department, and Janet Jones, Speech Correction & Hearing Conservation Department, served as consultants in the important areas of evaluation and communication.

Glennis Syroid, Consultant, constructed and organized a display of multisensory learning aids which could be utilized by the classroom teacher in all areas of remediation.

Many techniques for making safe, durable, cleanable, colorful, professional looking aids were demonstrated. Much of the material used to create and construct the aids was supplied to each participant. In addition, participants were asked to collect and bring usable discards.

Patterns, illustrations and procedures for constructing a number of learning aids are included in this document, and it is hoped that the ideas will encourage others to duplicate concrete aids for the benefit of their learners.

All of the learning aids were arranged in sequential order to conform with the concepts offered in your HANDBOOK OF SUGGESTIONS FOR DEVELOPMENTAL LEARNING. They are listed in this document.

Sincerely

The Institute Staff

THE PARTICIPANTS

<u>SPECIAL A TEACHERS</u>	<u>SCHOOL</u>	<u>SPECIAL A TEACHERS</u>	<u>SCHOOL</u>
Karmel Bailey	Noble	Mildred Lucas	Hanneman
Patricia Baker	Herman	Ruth McMurray	Davison
Linda Brylewski	Grayling	Mattie May	Couzens
Helen Byrd	Peck	Beatrice Murray	Campbell Annex
Allene Cabbell	Lillibridge	Bernice Ott	Monnier
Elizabeth Clark	Mark Twain	Dorothy Pittman	Ferry
Susan Coleman	George Ford	Helen Robinson	Clinton
Fleta Dougan	Brady	Paulette Seals	Thirkell
Raymond Goings	Carstens	Carol Scott	Hillger
Mary Anne Higgins	Pierce	Monica Sims	Crosman
Margaret Howe	Harms	Brenda Smith	Sherrill
Leona Jakubowski	Houghten	Patricia Woods	Hubert
Pamela Lowe	Vetal	Lillian Wooten	MacCulloch

* * * *

<u>JR. B TEACHERS</u>	<u>SCHOOL</u>	<u>JR. B TEACHERS</u>	<u>SCHOOL</u>
Modestine Baker	Hanstein	Nandell Penn	Boynton
Diane Bellack	Richard	Ethel Phillips	Duffield
Georgia Elliott	Courtis	Sadie Ramsey	Goldberg
Edna Freeman	McKenny	Susie Robinson	Brady
Sterling Glenn	MacCulloch	Vida Roache	Ferry
Harrison Hale	George	Cleo Smith	Clippert
Anne Harrien	Hubert	Marjorie Washington	Fitzgerald
Clintine Johnson	Dwyer	Ruth Wheeler	Marcy
Eula Kelly	Berry	Vera Wilkerson	Dixon
Edward Newton	George	Thelma Williams	Higginbotham
Marie Payne	Wingert	Patricia Yanni	Robinson
		Fannye Yates	Keating

* * * *

THE AGENDA

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MONDAY, AUGUST 20, 1973

A.M.

8:30 - 9:15	WELCOME	Walter Syroid
	Workshop Objectives	Lillian Runge
9:15 - 10:30	PRESENTATION	Ann McCarthy
	"What the Individual Psychological Evaluation Tells the Teacher"	
10:30 - 10:45	Break into Groups	
10:45 - 11:45	<u>Opportunity to React to Presentation</u>	
	<u>Special A</u>	<u>Jr. Special B</u>
	L. Runge	W. Syroid

P.M.

1:00 - 2:15	Assessment	A. McCarthy
	"How the Teacher Discovers: What the Pupil Knows-- Doesn't Know--"	
	COMMUNICATION SKILLS	
	NUMBER SKILLS	
	Optional testing	
2:15 - 2:30	SYMPOSIUM	
2:30 - 3:30	EVALUATION INSTRUMENTS	
	...Make Your Own...	A. McCarthy

AGENDA continued--

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TUESDAY, AUGUST 21, 1973

A.M.

8:30 - 9:30	Prescriptive Teaching Techniques	Ann McCarthy
	DISCUSSION	
9:30 - 10:30	Communication Skills	Janet Jones
	Assessment Prescription	
10:30 - 10:45	Open Discussion	
10:45 - 11:45	Number Skills	A. McCarthy
	Assessment Prescription	

P.M.

1:00 - 1:45	Presentation	Lillian Runge
	<u>HANDBOOK OF DEVELOPMENTAL LEARNING</u>	
1:45 - 2:30	<u>Exchange of Ideas</u>	
	<u>Special A</u>	<u>Jr. Special B</u>
	L. Runge	W. Syroid
2:30 - 3:30	Strategies for Teaching Number Skills (Small Group Sessions)	
	W. Syroid/L. Runge/J. Jones/A. McCarthy	

AGENDA continued--

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WEDNESDAY, AUGUST 22, 1973

A.M.

8:30 - 9:30	IDEAS UNLIMITED Learning Aids for Special Education Teachers--A Slide Presentation	Glennis Syroid
9:30 - 10:45	Making Instructional Demonstration Aids	G. Syroid
	Tricks of the Trade and Materials	G. Syroid
10:45 - 11:45	Use of Demonstrated Aids in the Classroom	G. Syroid J. Jones

P.M.

1:00 - 3:30	Exhibit and Work Session	G. Syroid
	Instructional Aids Number Skills Communication Skills	

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AGENDA continued--

THURSDAY, AUGUST 23, 1973

A.M.

8:30 - 9:30 SHARE AND TELL Janet Jones
 Special A Teachers
 Teacher-Made Instructional Aid

9:30 - 11:45 Work Session

 Constructing Instructional Aids to
 Meet Learners' Needs

P.M.

1:00 - 2:00 SHARE AND TELL J. Jones
 Jr. Special B Teachers
 Teacher-Made Instructional Aid

2:00 - 3:30 Continue Work Session in Construction
 of Learning Aids for Prescriptive
 Remediation

AGENDA continued--

FRIDAY, AUGUST 24, 1973

A.M.

8:30 - 9:30 Demonstration of
Instructional Games G. Syroid

10:30 - 11:45 Construction of Instructional
Games

P.M.

1:00 - 2:30 Development and Construction
of Multisensory Learning Aids

2:30 - 3:30 EVALUATION

Written, anonymous evaluations were collected
from the participants.

Dear Diary,

First Day:

Approached the lecture room with both arms loaded with bags of items filled to their overflowing tops, containing items we were asked to bring with us to the workshop. Look at this list:

1. Scissors
2. Glue (Elmers')
3. Rubber Cement
4. Lead pencils--ball point pens
5. Crayons (assorted colors)
6. Magic Markers (assorted colors)
7. Ruler (12")
8. Clipboard
9. One yard (36") of transparent Contact paper
10. Tagboard (Flash card size)
11. Shirt cardboards
12. Cardboard box approximately 9" wide x 15" long x 12" high with tops attached
13. Tin cans (7 oz. tuna, 8 oz. tomato paste or mushroom)
14. Plastic gallon milk jugs and other plastic containers
15. Plastic coffee and shortening can lids
16. Towelling tubes (heavy) or rolls from foil and waxed paper
17. Felt (all colors and sizes)
18. Calendar or magazine pictures (8-1/2 x 11 or 9 x 12)
19. Egg cartons (fiber board and plastic)
20. Paper bags (assorted sizes)
21. Stapler/Tacker and Staples
22. Pipe cleaners
23. Styrofoam scraps--to be used as bases for number concepts (if possible)
24. Thin wire coat hangers and any other wire available
25. Bring an instructional aid--for communications or number skills--made by you and enjoyed by your pupils...plus directions on a (3"x5") card for constructing aid

Saw other participants coming in with their arms full of items. It looked like Christmas in August.

I have some feelings of apprehension. Is this to be another dreary, monotonous workshop with clock watchers and lingering stragglers? Will I truly be able to utilize whatever knowledge I receive here? Wonder who my fellow participants are going to be.

It will be uplifting to be with special education colleagues.

Entered lecture room. VOILA! Eager, warm smiling faces everywhere. It is old-home-week. Was greeted by the Supervisors (2), who outlined workshop strategies and objectives for the next five days.

We were told we would meet in the lecture room the first two days of the week. The last three days would be spent primarily in the huge cafetorium, creating and constructing learning aids to help the pupils overcome specific learning disabilities. That is where we will use the items we brought.

We were told that we would receive other items, too. It appears that this will be a functional workshop with much involvement by the participants.

A psychologist, from the Psychological Clinic of the Detroit Public Schools, was introduced. Her presentation clarified use of individual psychological evaluations administered at the Clinic. We agreed that test results should give teachers information relative to the individual child's strengths and weaknesses, with suggestions for prescriptive remedial teaching.

Following the presentation by the psychologist, we divided into groups to engage in a lively symposium which was distinguished by its rising enthusiastic pitch. It was a most stimulating session, so much so that when lunch time came, we broke up with some reluctance.

Not over yet! We continued to pose questions and garner answers during our lunch break. The entire room was buzzing with

conversation--here was the beginning, one felt, of a workshop that promised to enrich the professional competence of every participant.

Overheard:

"...insatiable desire to observe a psychologist administer the Stanford Binet..."

"This reminds me of my classes in testing at the university."

"There is more to testing than I thought there was."

After lunch we returned to the lecture room. The psychologist reviewed the different types of commercial testing instruments available to teachers via the Test Catalog for Optional Testing (must remember to ask the assistant principal for it). The catalog was mentioned at a faculty meeting early in the semester. Thumbing through the catalog, one sees many titles applicable to the needs of my pupils. The Arithmetic Fact Tests caught my attention. Imagine! I can adjust the testing time to the level of my pupils. Too, these are diagnostic tests which assist the teacher to plan performance objectives. Here are some of the titles I must remember:

Test on the 100 Addition Facts

Test on the 100 Subtraction Facts

Included, also, are many diagnostic tests to assess reading skills. There are individual tests for the measurement and analysis of reading readiness skills, such as:

1. Vocabulary
2. Visual Perception
3. Motor Control
4. Visual Retention
5. Delayed Recall
6. Immediate Recall
7. Auditory Discrimination

Symposium followed. Everybody wanted to talk at the same time,

but, somehow--order prevailed (this was a good group) and we heard many interesting comments on the use of optional diagnostic tests. Hovering over all the comments was the feeling that each teacher seems to have her own way of finding out what the student knows.

Back to our meeting and the topic of teacher-made evaluation instruments. We were cautioned of the inherent weakness in this type of evaluation because of its lack of sampling. There are, of course, many tests a teacher could devise to test for specific learning weaknesses in certain areas, such as arithmetic computation. The group shared several teacher-made evaluation instruments:

1. Ask child to write his name on lined paper.
2. Ask child to sort color samples; name colors; spell color words; write color words.
3. Ask child to count by 1's from 1 to 30; from 65 to 83; etc. Have him write numerals as directed from 1-25; 63, 21. Watch for reversals.
4. Give the child a box of cutout shapes. Ask him to select all of the circles, squares, rectangles, triangles. Colors should be constant. All of the shapes should be the same color so that color will not give him a clue. You may use directions such as, "Pick all of the shapes that look like this one", if he does not understand terminology.
5. Ask the child to copy a sentence from a book. Check omitted letters, reversed words or letters.
6. Ask child to reproduce from flashcards (1) circle, (2) cross, (3) square, (4) triangle, (5) vertical diamond, (6) divided rectangle, (7) horizontal diamond. Note approximation of size, shape and manner of drawing.
7. Ask child to read from a basic word list.
8. Ask child to work teacher-made puzzles, simple to complex.

Time passed swiftly. The end of our first workshop day is here. I feel enthused and look forward to tomorrow.

Second Day:

Eagerness took over this a.m. Was more than ready for a massive dose of prescriptive teaching, a new, NEW, I tell you,

technique that has been used by special education teachers since the inception of education for exceptional children. But then again, I do believe one can learn new twists to old tricks. Everyone needs a little jolt now and then and some communicating with colleagues to revitalize one's thinking relative to approaches to programming.

After listening to other participants during the coffee break, it appears that all teachers of exceptional children are to some degree doing prescriptive teaching.

Peeked into the cafetorium on the way back to the lecture room. Saw a supervisor and a teacher consultant distributing materials, in ever increasing quantity, on the tops of tables. Will all of those goodies be ours to use and to keep??

We got our first handout...a speech development chart was distributed to the participants by the speech correction and hearing conservation teacher consultant. The chart indicates chronological maturity expectancy developmental levels in language and related development.

We are deluged with new ideas for language development strategies. It is difficult to keep up, but I am determined...

Language is the raw material used in the act of speech and in the process of communication. It is the "stuff" of talk. Using words to name objects, to tell about experiences, and to describe activities are the building blocks for oral communication.

By listening, we develop auditory memory and receptive (understanding) vocabulary which is the beginning of oral language. It is a continuing process, beginning in infancy and it is acquired from the environment in which we live and interact. The five basic senses of learning--seeing, hearing, touching, tasting, and

smelling are the pathways by which we come to know the world. Words provide the means of expressing that which we have experienced through the senses. Teachers must provide multisensory experiences for young children so that they may have "something to talk about".

Many language development ideas were presented. It is interesting to note that they do not require a great deal of preparation time. Common sense is an important factor in employing effective strategies to develop a meaningful language curriculum for the educable mentally impaired. No federal grant funds are needed to initiate:

Discussion starters about textures, things we touch and wear.

Talks about past and future field trips.

Language games such as putting objects or pictures in proper categories--things to eat, things to wear, modes of transportation.

Group activities such as choral reading, dramatizations and fingerplays.

Individual activities such as having pupils identify the soft, hard, rough, smooth surfaces in the classroom.

Lunch time. I learned that even though one wrote with furious speed, it was impossible to keep up with the many ideas presented this morning. My colleagues and I exchanged notes and scribbled on napkins those ideas we missed during the morning presentation.

Back to class. It was good to have the HANDBOOK OF SUGGESTIONS FOR DEVELOPMENTAL LEARNING presented by one of the supervisors. The HANDBOOK has become an old friend to teachers of exceptional children. It is worth its weight in gold.

We then broke up into three small groups where we were able to share practical techniques to improve number and communication skills. There was one constant thread in every shared idea and that

was the importance of concrete teacher-made learning aids. It brought to mind the precept that educable mentally impaired children learn best going from the concrete to the abstract and from the simple to the complex.

Third Day:

Ideas unlimited! One picture is worth a thousand words. How true! Our Special A Consultant gave us a visit to her classroom via a slide presentation of teacher-made learning aids. These are aids which are actually in use in the classroom. We saw children using:

1. Felt charts to identify body parts by matching the word to the part of the body made of felt.
2. Felt board to match color with appropriate word using configuration clues.
3. Felt board to match objects with word numbers.
4. Pocket charts for a variety of individual pupil instructional activities such as matching upper and lower case letters, matching beginning sounds and number concepts.
5. Category pocket charts for:
 - Pupils' names
 - Body words
 - What time?
 - How much money?
 - Things that go
 - Things outside
 - Things inside
 - Clothing
 - Money
 - Animals

Finally, we were to enter the spacious cafetorium. Radiating from the horizontally striped orange and yellow walls like golden sunshine were the words DEAR HANDBOOK--and the developmental objectives from A to P:

- A. To develop number awareness.
- B. To recognize and write number symbols.
- C. To develop understanding and use of quantitative thinking.

- D. To understand the process and the use of the basic mechanical skills of addition and subtraction.
- E. To understand the process and the use of the basic mechanical skills of multiplication and division.
- F. To understand the process and the use of fractions.
- G. To develop social uses of arithmetic.
- H. To develop purposeful listening and speaking skills.
- I. To develop visual skills.
- J. To develop motor skills.
- K. To develop tactile discrimination skills.
- L. To develop visual-motor skills.
- M. To develop visual-auditory motor skills.
- N. To develop visual-auditory skills.
- O. To develop functional reading.
- P. To communicate through writing.

The A to P goal academic fulfillment statements were animated with many teacher-made learning aids displayed on table tops under each appropriate goal statement. Fifty tables (30"x60") with fifty comfortable chairs held (ready for use) the wisely chosen supplies each participant received to create learning aids. We received the following items:

- 1. R-Kive file box--simulated wood--corrugated cardboard box 10"x12"x15".
- 2. Partitioned wallet envelope--9-1/2"x15".
- 3. #49 Sanford "Sharpie" permanent fine line markers--red, orange, yellow, green, blue, purple, brown, black.
- 4. Legal size clipboard, masters, carbon paper, 1/4" quadrille paper, 12" T-square ruler, dressmaker's tracing wheel, exacto knife.
- 5. 1 (8-1/2"x11") form board, 4 yards 18" clear Contact paper, 1 calendar picture, rubber cement and applicator.
- 6. 1 (22"x28") illustration board.
- 7. 26 Texolite samples, 2"x3", in a plastic holder, 1 roll 1-1/2" clear contact tape.
- 8. 15" body shape pattern, 9"x18" white, red, green felt, 18"x24" gold felt.
- 9. 1 shallow plastic container, 1 metal can, upper and lower case letter patterns, numeral patterns, picture-words sheets, work sheet ideas.

Our first project was to put together the R-Kive box which was to be used to store our supplies and contain any projects made during the workshop. A contagious form of mild giggling ensued as many

clumsy fingers tried to follow the printed directions leading, hopefully, toward a finished product. Have you ever tried to put a disassembled Christmas toy together? However, cooperation was exhibited and those participants blessed with the talent of being nimble and quick to catch on how to put things together correctly, helped those of us, now humble, who were trying to identify the clump we held which was supposed to at least resemble a plain cardboard box.

The reality of meeting the individual needs of the student was realized with a strong impact.

We received step-by-step instructional demonstrations as we prepared masters for professional appearing duplicated worksheets, using a T-square ruler, clipboard, carbon and quadrille paper, and a tracing wheel, double-sided form board, and columnar puzzles. We cleaned laminated chips for beginning letter-sound picture word aids and stored them in a plastic container. We made felt body puzzles to train laterality and teach body parts-to-whole relationship with spoken or written words. We received patterns for letters and numerals which could be used effectively and economically as they were cut from the sides of plastic gallon milk containers.

We were then given the opportunity to look over the instructional aids on exhibit. It was difficult to believe that the aids were not commercially made. All of the aids were made by the consultant. We have been working all day and there is so much to do, to see, and to learn. Must be sure to come very early tomorrow morning to jot down ideas for my room. Maybe I will bring a camera.

Fourth Day:

The parking lot was dotted with cars as I pulled in for another

exciting day of workshop experience. I see that I was not the only one to decide to come early to take advantage of the extra time to truly capture the immense significance of all the meaningful, functional, practical learning aids on exhibit.

There were several groups around the tables, taking pictures and notes for future projects to be constructed. I approached

Table A--To develop number awareness--and saw the following teacher-made learning aids, constructed by our consultant:

1. Shape templates, positive and negative, made from wood, plastic, and cardboard. (1' to 5" in overall size)
2. Shape bean bags made with iron-on patches. (5"x5-1/4")
3. Felt shapes, all colors, about 1" in diameter for matching at felt board or seat work.
4. Geometric shapes, large and small sizes, and number shapes, made of sponge, to be dipped into water colors and used for block printing. Can also be utilized to develop tactile discrimination.
5. Concept cards made on 3"x5" pieces of translucent plastic. Dot patterns are drawn on with permanent felt markers, showing number concepts through 12. Match with numeral and number word at pocket chart.
6. Two-faced number concept picture puzzles made with form board, calendar pictures, and pattern numerals.
7. Spray painted metal milk jug caps with cardinal and ordinal numerals.

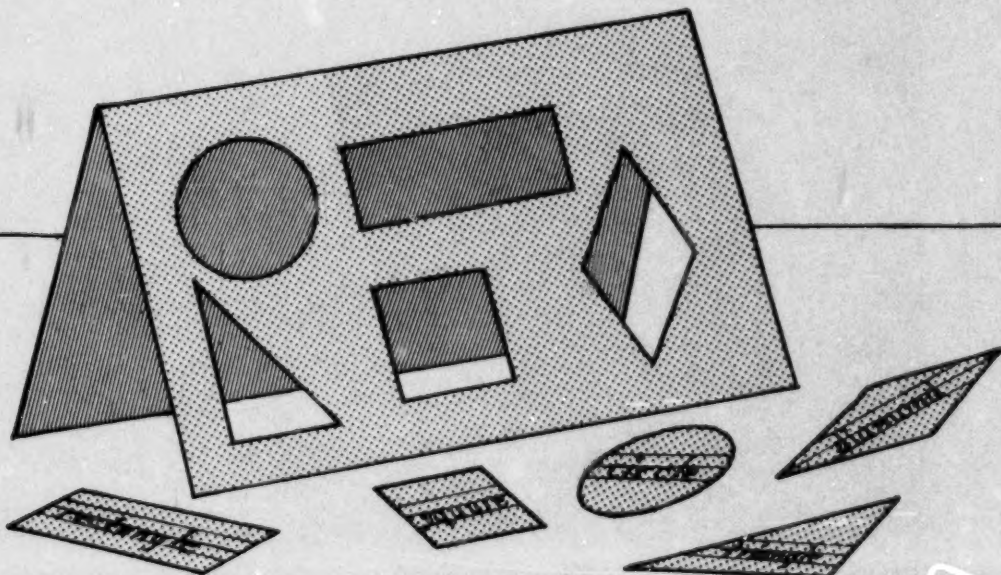


Table B--To recognize and write number symbols was loaded:

1. Styrofoam balls on pipe cleaners arranged on discarded styrofoam packaging, concepts 1 through 6, used with air writing number and number concept cards.
2. Felt board with numerals, number word, and felt stick counters.
3. Pocket chart matching concept cards with numerals and number words, 1 through 12.
4. Shirt cardboard easels showing number concept, cardinal and ordinal numerals, number word, and addition and subtraction facts, 1 through 12.
5. Plastic, sponge, wooden, carpeting, and gravel numerals 0 to 9.
6. Place value counting book used daily with calendar work counting.
7. Place value cans and sticks.
8. Transparent place value pockets showing ones, tens, and hundreds. Opaque plastic numeral cards fit in the pockets.
9. Magnetic numbered poker chips, 1-100, used with metal stove protector mat that has been divided into 10x10 spaces.
10. Metal milk jug lids, painted and numbered 1-100.

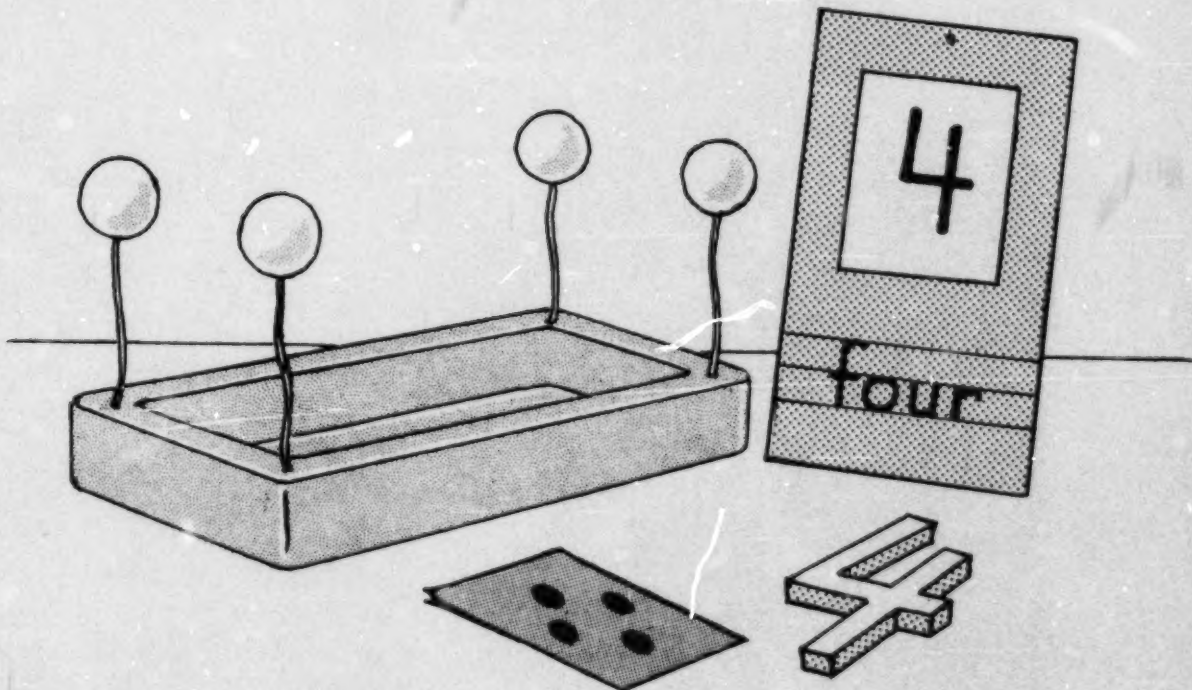


Table C--To develop understanding and use of quantitative thinking--
had some interesting surprises:

1. "The What Box" and "The What Bag". Shoe box covered with blue contact paper and bag made from blue cloth used to develop language, sense training, and sentence building in concepts of light, heavy, thick, thin, small, large, long, short, few, many.
2. Cardboard tube puzzle cut into three pieces to develop understanding of top, middle, bottom, up-side down, right-side up.
3. Use arithmetic vocabulary with plastic geometric shapes, plastic lid templates, and plastic lid covers to develop understanding of small, smaller, smallest. Also, comparisons of big, large, long, short.
4. Playing cards with picture cards removed to show less, is less than, more, is greater than, same, is equal to, in connection with the symbols for the phrases.
5. Place value in a sophisticated form, Rubbermaid flatware drying rack, showing thousands, hundreds, tens, ones. Four different colors of spoons help to develop understanding.
6. Opposite words, felt board matching.

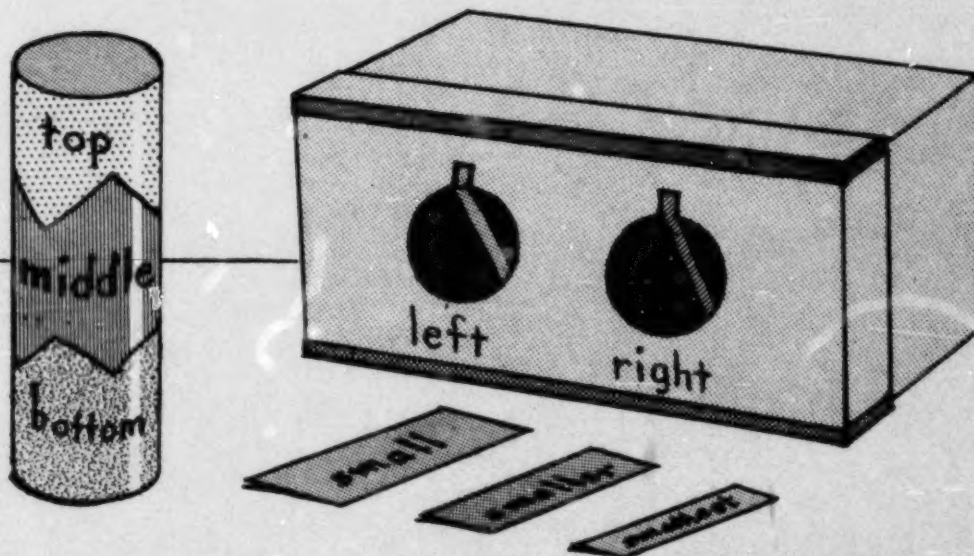


Table D--To understand the process and the use of the basic mechanical skills of addition and subtraction--There are several projects I want to construct today from the many useful aids on display:

1. 1-1/2" x 1-1/2" plastic dice with dot number concepts to six. Shake and roll two. Name sum.
2. Walk on number line 10' long marked with red and green tape at 1' intervals.
3. Right and left feet (using thongs for pattern) cut from place mats and numbered 1-10.
4. Number line, showing 1's, 5's, 10's to 100 above chalkboard in classroom.
5. Egg cartons labeled with the operation on top. Inside, numerals are written in each partition. Toss two small balls. Solve fact.
6. Laminated chips (2"x3") with 25 addition facts of doubles and near doubles on one side and the sum on the other side.
7. Laminated shirt cardboard easels showing addition and subtraction facts related to numerals 1-12.
8. Fact-finder beads on coat hanger wire with various colored beads showing 10, 12, and 15.
9. Addition and subtraction facts on 3"x5" cards for review and for relearning.
10. Teacher-made worksheets.

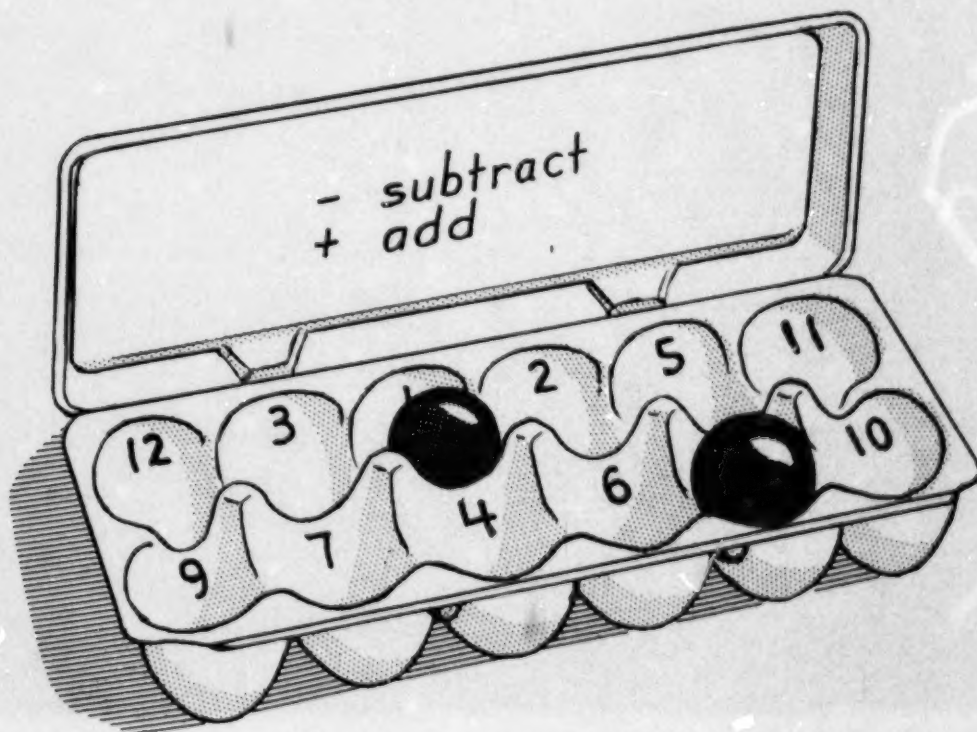


Table E--To understand the process and use of the basic mechanical skills of multiplication and division--I could only copy a few of the ideas at this table. I will have to come back later, if I could find the time.

1. Fact-finder beads (10, 12, and 15 in various multiple colors) used in addition and subtraction take on the operations of multiplication and division as colors are grouped and the operation applied.
2. Multiplication and division facts on 3"x5" cards for review and relearning.
3. Teacher-made worksheets.
4. Egg cartons labeled with the operation on top. Inside, numerals are written in each partition. Toss two balls. Solve fact.



Table F--To understand the process and the use of fractions--Many of our older pupils will be happy to work with these learning aids:

1. Felt circle and square shapes showing $1/1$, $1/2$, $1/3$, $1/4$, $1/6$. Fraction written on fractional part.
2. Plastic lid cover fractional parts showing $1/1$, $1/2$, $1/4$, $1/3$, $1/6$, and $1/8$. Fractions are indicated on fractional parts with a permanent fine line marker.
3. Use fractional parts of lids to show addition, subtraction, multiplication, and division in a concrete manner.

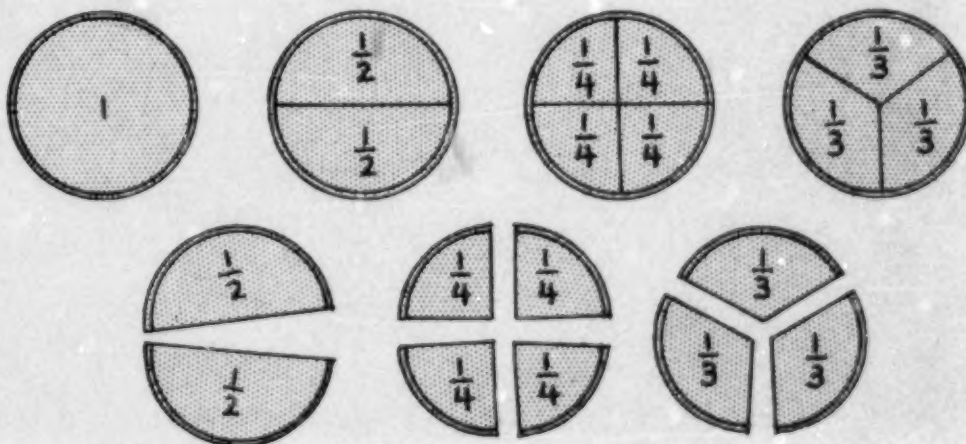


Table G--To develop social uses of arithmetic. Here is a great way to make arithmetic meaningful to my pupils.

1. Laminated clock, 11" in diameter, on white illustration board. Hours and minutes are numbered. Hour and minute hands are labeled.
2. Laminated (3"x4") clock faces showing time on the hour. Match in pocket chart with 1"x3" plastic cards showing time on the hour.
3. Laminated (3"x5") clock faces showing minutes past the hour. Match in pocket chart with laminated (3"x5") cards showing 5's to 55 minutes past the hour.
4. Plastic (3", 4", 5") lid clock faces with different color hands for hour and minute. Some made with Roman numerals.
5. Laminated (3"x5") cards picturing different toys at a variety of prices. Match in pocket chart with laminated (3"x5") cards picturing coins which will cover cost of each toy.
6. Walk on number line 10' long.
7. Chalkboard number line with 1's, 5's, 10's to 100.
8. Large sand pan with measuring spoons, parts of cup, pint, quart.
9. Height and Weight Chart displayed in room shows the learner's name, age, birthdate. Weights and heights recorded.
10. Plastic foam back place mat showing names of meals and time of day. Placement and names of dishes and flatware show correct place setting.
11. Tape line on wall for height. Bathroom scale for weight.
12. Current newspaper food ads, play coins.

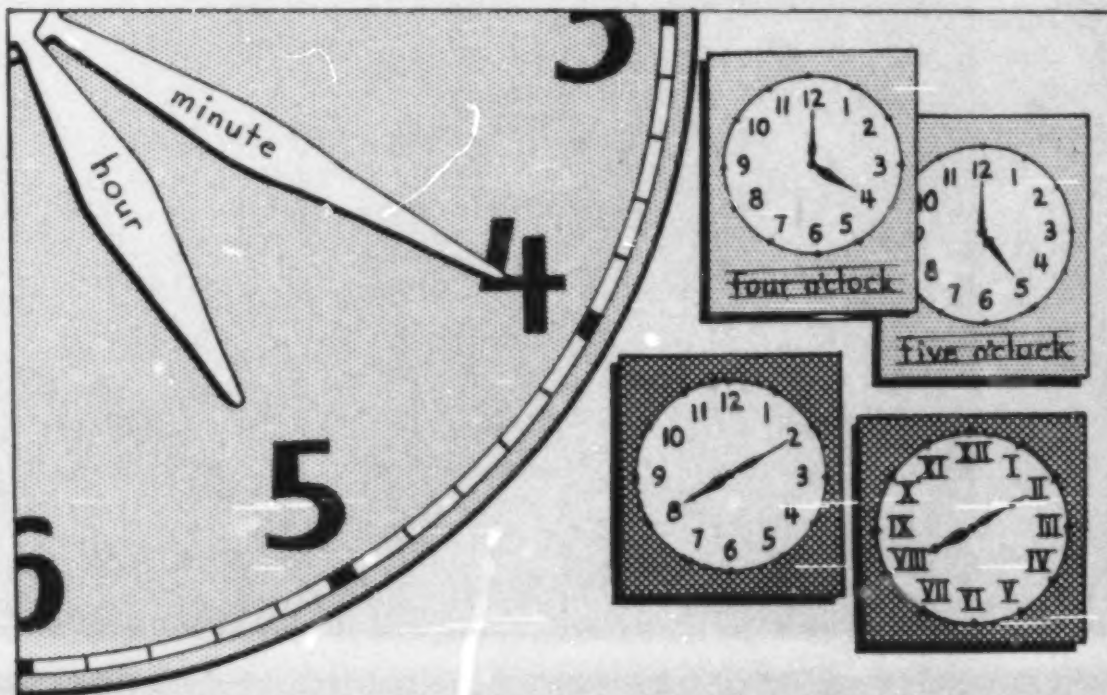


Table H--To develop purposeful listening and speaking skills--Here in concrete form are some of the abstract concepts presented to us by the language development consultant:

1. Sound shakers made from potato chip cans, copper cleaner jars, and aerosol can covers. Use rice, beans, nails, gravel, etc., inside to make different sounds.
2. Paper plate sound shakers with handles. One contains rice inside and has right/left color code on opposite sides of plate. The other contains beans and stop/go are color coded on opposite sides of plate.
3. Action verb silhouettes and matching commands.
4. Puppet stage made from (9"x12"x15") corrugated box. Large front opening for stage, flap doors at the two narrow sides admit finger, stick, and hand puppets for role playing.
5. Television set made from corrugated box and paper rolls.
6. Play "Simon Says" and lead out to play "Teacher Says" by using a right (red) left (green) body shape poster which aids the learner visually during auditory decoding of a difficult concept.
7. Oral gymnastics aid made from 1/2 gallon plastic jug shows head, face, open mouth, lips, teeth, and a felt tongue.
8. Containers with small items by categories used in language training.
9. Farm domestic animals and zoo wild animals provide many language experiences.
10. "Hello" pocket chart with day, weather, and temperature concepts.
11. Wood, days of the week, block with yesterday, today, and tomorrow concepts.
12. Days of the Week/Months of the Year wall chart with write-in space for current school events and birthdays.

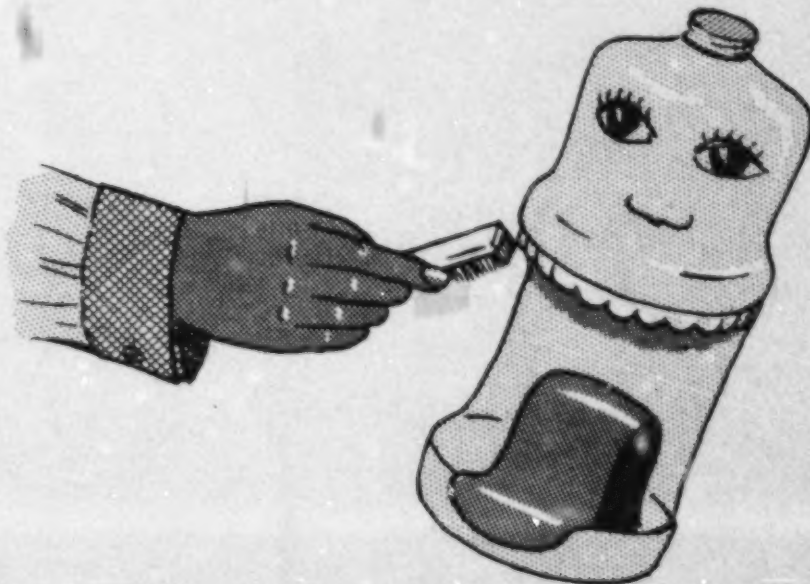


Table I--To develop visual skills--All of my pupils will profit from these aids, especially Leroy Jones. He will enjoy working with the color chips, pocket chart and the puzzles. There are so many aids on this table!

1. Ninety 2-1/2" color circles laminated on 4"x4" tag board for color sorting of shades of ten colors.
2. Color chips for color sorting and naming.
3. Felt board shape matching of circle, square, triangle, rectangle, and diamond shapes (1" to 1-1/2") in nine colors.
4. Pocket chart matching of color-cued color words, word and color samples.
5. Felt board matching of colored word shape with word shape written on white felt in eleven color words.
6. "What Box"--recall small items from small item categories boxes which may be added to, removed from, or hidden under the box. "What Bag" may be used also.
7. Use small items from containers, farm and zoo animals for visual sequencing.
8. Teacher-made meaningful puzzles.
9. Magnetic 3" lower case color word shapes for use as a visual aid and training in chalkboard and paper work at desk.
10. Felt pictures with two in each set. One is assembled on card. The learner observes the picture, then uses the other set of parts to construct the picture from memory.

pink

white

green

blue

orange

red

Table J--To develop motor skills--I have several of the teacher-made learning aids in my room, but these are so much more durable and professional looking:

1. Wood positive and negative body shape templates.
2. 15" red and green body shape puzzle, showing right/left and back/front.
3. Felt board body puzzles and words.
4. Laminated (3"x5") body word cards.
5. Laminated (3"x3") body parts picture cards with (1-1/2"x3") body word cards for pocket chart matching.
6. 9'x12' carpeted area and mats for physical exercise in classroom.
7. Body alphabet picture cards.
8. Pen light for guide in air writing of numerals, letters, and words.
9. Chalkboards lined at 1-1/2" intervals from top to bottom. Learners have guided instruction for chalk work.
10. Five felt board charts, covering a 15' felt board and four pocket charts, provide developmental and fine motor activities.
11. Clay boards and sand pans give fine motor experience as they are coordinated with lessons.
12. Action verb silhouettes and commands.



Table K--To develop tactile discrimination skills--This was an extremely popular table. All of the aids constructed by our Special A Teacher Consultant were handled and admired by the participants. By the time I got to the table it resembled a clearance sale table at a department store:

1. "What Box" and "What Bag" to conceal small items from small item containers for tactile exploration and discrimination.
2. Colorful felt mask to blindfold pupil.
3. Wood, plastic, and carpeting geometric shapes--include circle, square, triangle, rectangle, and diamond.
4. Wood and plastic negative geometric shape templates.
5. Wood negative and positive body shape templates.
6. Wood, carpeting, and plastic upper and lower case letters.
7. Lined chalkboards for accurately tracing numerals, letters, and words with the index finger of the dominant hand.
8. Clay and lined laminated plastic remnants for pre-writing and writing activities.
9. Sand in cake pan that has been lined with contact paper for writing symbols and practicing facts.
10. Felt and pocket chart activities for learning and relearning at learner's level of understanding.
11. Tactile-kinesthetic numerals, 1-10.



Table L--To develop visual motor skills--An aid can be used effectively in more than one area in prescriptive teaching. I see a few aids on this table which were also on exhibit on some of the other tables. This is good. The aid has greater utility and one must construct it from durable material:

1. Duplicated worksheets prepared for learners according to their level of understanding, fine motor skills, and left to right eye movements for crayon, paint, and pencil tasks.
2. On worksheet assignments, use negative shape templates first. Follow with positive templates.
3. Chalkboard and clay work performed on lines related to the body's position-in-space. Color code lines when possible.
4. Grease pencil or wax crayon used to trace over sticks, circles, shapes, upper and lower case letters, words, name and tracking exercises prepared on laminated cardboard. Rub clean with paper towel.
5. Laminated (3"x5") picture/word cards from the categories in the shoe bag holder used for visual motor association responses.
6. Big and little shapes and numerals, made of sponge, for sponge block printing.
7. All felt and pocket chart developmental activities.

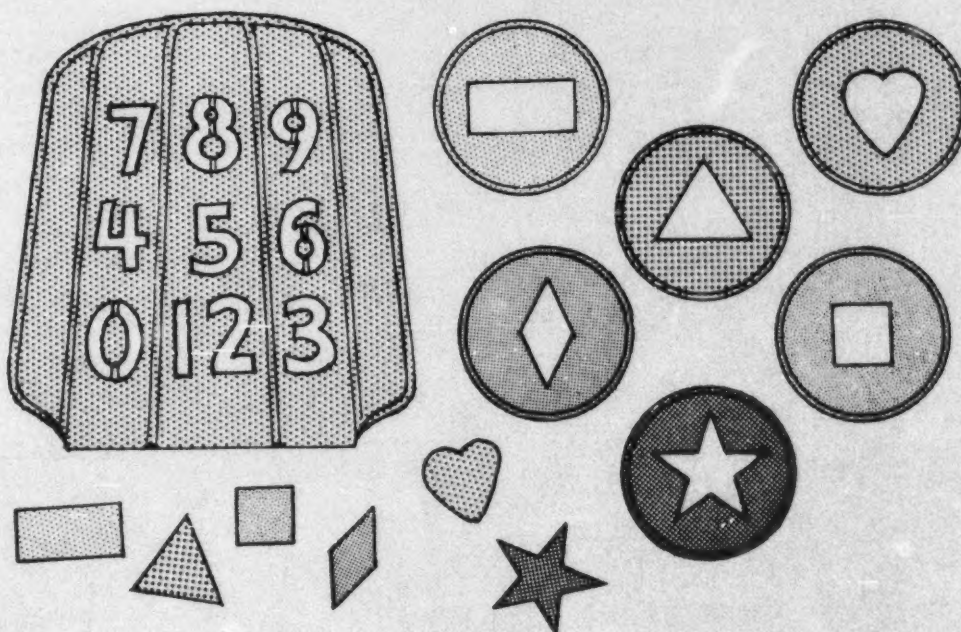


Table M--To develop visual/auditory motor skills--I am so happy I learned to use the T-square, clipboard and quadrille paper for making neat master sheets for I see many good samples of worksheets which can be used in this important developmental stage:

1. Loud and soft sound shakers. Learner identifies the one he heard and saw by shaking it.
2. Oral directions by teacher for learners to write name on upper left side of worksheet. Oral directions for completing work given at level of understanding.
3. Chalkboard assignments read aloud with learners as they complete task on teacher-prepared worksheets.
4. Learner hears and sees shape, numeral, letter, or object, draws picture or writes word.
5. Learners listen to words and write the beginning letter sounds.
6. Spelling tests which follow sense training of spelling words.

Table N--To develop visual/auditory skills--Durability reinforced. So many of the aids on this table have implications for other areas of learning too:

1. Sound shakers made from aerosol can covers.
2. Laminated (3"x5") picture/word word cards. Learner answers simple questions regarding them.
3. Action verb silhouettes for learner to interpret orally the action he observes.
4. Charade games as learners act out some home or school task. Learners state orally their observations.
5. Learners name classmates and school personnel accurately by seeing them.
6. General conversation regarding previous day's work, good helper duties, and "What did you do today?".

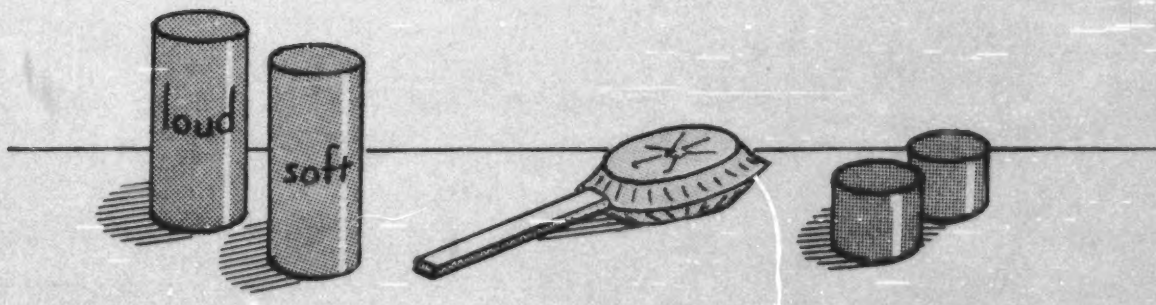


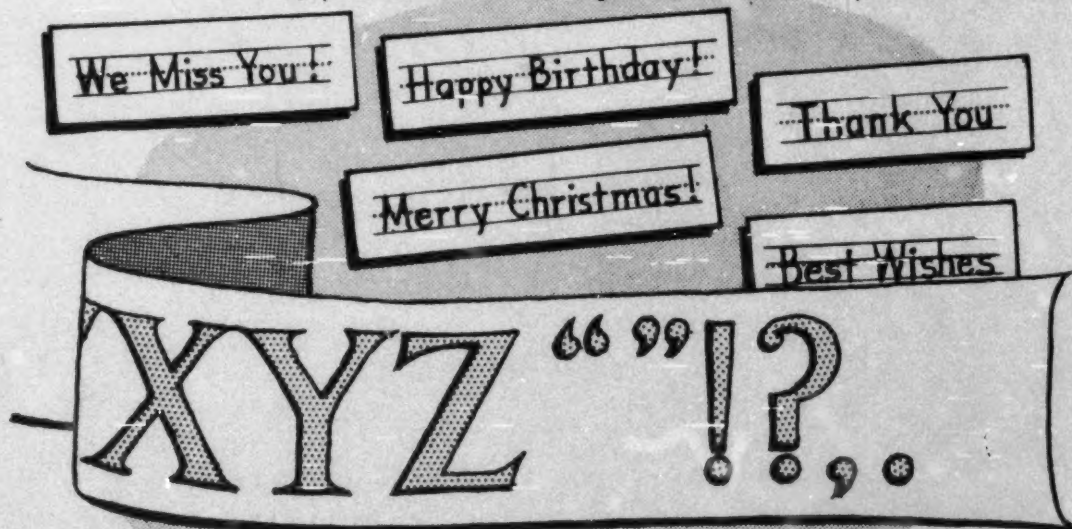
Table 0--To develop functional reading--From the simple to the complex and from the abstract to the concrete and from the parts to the whole. It seems this table brings together all of the other tables into a whole. Just take a look at this list of teacher-made learning aids:

1. All multisensory positive and negative geometric and body shape templates.
2. All multisensory numerals and letters.
3. All teacher-made puzzles.
4. All felt board and pocket chart activities.
5. Containers for small items.
6. Laminated picture-word/word cards categorized in shoe pocket bag.
7. Days of the week wood blocks with yesterday, today, and tomorrow concept. Daily calendar work.
8. Wall charts for "Good Helpers/Jobs for Good Helpers", "Days of the Week/Months of the Year".
9. Good helper birthday, weight, and height wall chart.
10. Fish pond words made on translucent plastic.
11. Magnetic color word 3" tall for lined chalkboard.
12. Picture sequence cards for pocket chart work.
13. Teacher-made books on (12"x18") tag board showing pictures of meaningful items by categories. and large magazine pictures with simple stories and questions.
14. Action verb silhouettes with commands.
15. Picture with sentence cards for pocket chart matching.
16. Opaque plastic upper and lower case alphabet letters, blends, family word endings kept in plastic dish containers for learners to use as indicated by level of understanding.
17. Functional word worksheets.
18. Written directions placed on chalkboard and worksheets.
19. Transparencies for overhead projector made from selected worksheets.
20. Teacher pocket word appon with words: What color?, Who?, Verb, What?, and How Many?.



Table P--To communicate through writing--The grand finale!
Exhausted, but inspired.

1. Learner traces or writes name on every worksheet and at every reasonable opportunity.
2. Name is traced or written at chalkboard on lines, with clay on lined laminated plastic board, in sand, and with plastic anagrams.
3. Teacher-prepared worksheets are made with top, middle, and bottom lines. Middle line is a dotted line made with a dressmaker's tracing wheel.
4. Scrapbooks made by cutting and pasting pictures from selected categories on tag board pages and copying the name under each picture.
5. Thank you and Miss you notes developed cooperatively by learners in classroom may be copied and mailed.
6. Special Day cards for parents and friends are prepared on a master and learners complete cards by painting, coloring, tracing, and writing according to their levels of understanding and skill.
7. Language experience stories are written cooperatively about fellow learners or events and learners copy them to make books.
8. Capital letters, periods, question marks, commas, quotation marks, and exclamation marks are explained and discussed as demonstrated in the simple writings.
9. Advanced learners write simple sentences and stories about drawings and pictures with the help of picture word cards, dictionaries, and teacher assistance.
10. Action verb work with the giving of commands and writing of the action, aids in understanding sentence structure and nouns, pronouns, verbs, objects, as well as punctuation marks.



Later, Share and Tell Time gave us an opportunity to visit other classrooms without leaving the workshop. Each participant brought at least one teacher-made learning aid that was used successfully in the classroom. There were many interesting teacher-made learning aids demonstrated. Here are some of the ideas I think I can adapt to my room:

ARITHMETIC DRILL DISCS

Materials Needed: Margarine tubs (10) fastened together and numbered 1-10. Plastic discs. Problems on one side, answers on other side (answers of 1-10).

Procedure: Student places discs in front of him with problem side up, then places discs in the cups with the answers. When all discs are used, student checks his answers by looking at the backs of the discs.

Variations: 2 players; 2 sets of discs. Each set a different color. See who can get the most correct answers first.

Use blanks to make problems for subtraction, etc. Then check with teacher or older student to see that answers are correct before writing them on back of discs.

As with most games of learning--one can adjust the level of sophistication by making the problems more complex.

* * * * *

RED, WHITE, AND BLUE

Procedure: Teacher arranges a number of flash cards on the chalk ledge, some with the color word RED, some with WHITE, and the remaining with BLUE.

Divide class into small teams (2-3 pupils on a team). Number teams. Teacher gives an action direction, such as HOP (skip, walk, etc.). Three teams are selected to HOP, with the additional direction of "choosing" a designated color card and returning to their seat.

Example: HOP, team 1 get RED, team 4 get WHITE, and team 6 get BLUE--GO!

* * * * *

QUICK GRAB

Procedure: Put "action word" and "non action word" flash cards in a pocket chart in front of the room. Class is divided into two teams facing the chart.

A leader is chosen to "act out" an action indicated on one of the cards. A child on each team is selected to decide the word the leader is acting out. The one who gets the word from the pocket chart first and returns to his seat scores a point for his team.

Hint to Teacher: Children must remain in their seats until they are sure which word is being acted out. Too much hesitation at the pocket chart could mean the loss of points. If the game is played more than once, a new leader may be selected from the winning team. Also, there may be more than two teams.

* * * * *

WHAT AM I DOING?

Procedure: The teacher makes a set of flash cards of action words or pictures depicting some activity. Cards are placed in a box.

One child at a time is chosen to select a card and act out the action word or picture.

A leader may call on pupils to guess the action. If a child guesses, he becomes the one who chooses a card to act out.

Hint to Teacher: Words and pictures on the cards may be animals, household chores, or anything that can be acted out.

* * * * *

TRAFFIC LIGHT

Procedure: Three children are selected for the traffic light. Each one has a large circle, one red for stop, another has a yellow circle for amber, caution, and one circle is green for go. The class walks in a line approaching the "light" (the 3 children stooping down).

When the child with the red "light" stands, the group stops. When the child goes down again, the child with the "green" may stand up quickly for a period. The line will then walk as long as the green light is up. Many variations may be used.

* * * * *

WORD-O

Materials Needed: (4) colored poster board. Felt tip marker. Word list and laminated paper, scissors or paper cutter and a ruler.

Procedure: Measure and cut 15 student cards 8-1/2"x11". Measure and cut 25 teacher flash cards 3-1/2"x5"--color coordinated to match student cards. Copy words (word list) on nine squares of each student card and on teacher cards.

Game is played like Bingo. Each student receives seven chips to place on words as teacher flash card is shown and word is pronounced. Students must learn and know words by sight before prize is given.

* * * * *

There were many other teacher-made learning aids dealing with such concepts as rhyming, matching, categorization, laterality, visual motor coordination, auditory discrimination skills, tactile sense development and many others, but I cannot absorb any more. A sponge can only hold so much water. Would you believe that in between all of these activities we worked on individual projects! I can hardly wait to get back to school to share my newly-gained ideas with other teachers. I still need to make felt objects for left/right discrimination, color word match ups, number, numeral and number-board flash cards out of plastic milk jugs. There is so much to do, but the end of the day, a well spent day, is here.

Fifth Day:

Why must it end today. I have really just started. I feel pretty good about the things I have constructed. The total accomplishment gives one a sense of self-satisfaction. My calendar board is all set. I finished my plastic sequence card games. My number

flash cards are completed. John can really use these to good advantage. The puzzles will be great for Suzy and the laminated clay board should help Donna with her letter formations and position in space. The letter patterns cut from scrap carpeting are completed.

Strephosymbolia--what a word for word reversal! Air writing, sand writing, and judicious repetition at the board will help Martin with his problem.

A salient feature of the workshop was the never-ending sharing of ideas as participants would pause at their work tables long enough to walk over and assist or to ask for assistance. As a project would reach completion, it would be held up and received with warm applause from fellow participants. Immediate positive reinforcement--one participant had a good idea. "I have just realized that although we have had scheduled coffee breaks and time for lunch, we have not, for the past three days, been taking time out to leave our projects for coffee or for lunch. We have been working with one hand and eating with the other--just too busy and hooked on what we are doing to leave our work".

We were asked to assemble into one group in a corner of the cafetorium where our Special A Teacher Consultant demonstrated many games of her own making. Implicit throughout the demonstration was the concept that our pupils could learn and develop many skills using a game format.

Learning can truly be fun. I can list only a few of the many interesting, educational games which were demonstrated:

1. Shape Lotto--made on form board. Five geometric shapes and eight color words are used. Naugahyde pieces (1/2"x1/2") are used for markers.
2. Shape Toss--made from a back rest cardboard box. Geometric shape bean bags are used for the toss.
3. Giant Blockhead--played with a variety of shape boxes covered with eight solid colors of Contact paper.
4. Number Concept Toss--played on a 20"x30" white plastic sheet by tossing bean bags at number concepts, 1-10, marked off on each side of the sheet.
5. Rubber dish drain mat with cutout numerals for Marble Roll.
6. Number Lotto--using numerals 1-60.
7. Hopscotch marked on classroom floor provides words with numerals and beginning letter sound words.
8. Adapt Bean Bag Toss to number concepts on the plastic floor sheet or the back rest shape. Write fact on the chalkboard or paper.
9. "Blind Fraction" is played by putting the fractional parts in a bag or box so the learner cannot see the fractional part he is feeling. If he identified, by naming the fractional part, he places it on the appropriate fractional part of the lid that has been labeled but not cut. If he is incorrect, he returns the fractional part to the bag. The next learner takes his turn. Continue to play until all fractional parts are placed correctly.
10. Right/left foot patterns are placed around room on floor for use of commands and improvement of listening skills.
11. "War" (a game regarding more, less, same, is greater than, is less than, is equal to), played with a deck of regular playing cards with the face cards removed.

RANDOM RECOLLECTIONS:

1. An "almost indestructable" material to make aids from is the plastic milk jug. You do not want to see your instructional aids being eaten.
2. To avoid disturbing children who suffer from distractibility, create learning aids from soft, noiseless material. You can use carpeting, sponge, rubber, or styrofoam. It also prevents needless contusions on the head.
3. When making a puzzle for the class, have the pupils see the picture as a whole and discuss it before cutting it into pieces for a put-together puzzle.
4. Never spread too much rubber cement on a form to hold a picture. It has a way of running off the edge of the form and on to one's clothing. Ugh!
5. We brought and shared usable discards and ideas as we made the most effective use of the valuable time we worked together in a friendly atmosphere as we anticipated our needs for the approaching school year.
6. We did not rush as we knew the work we had begun was to continue to meet the needs of our learners in the years to come.
7. The supplies we received were ours to use, keep, and continue creating learning aids in terms of our learners' needs.
8. Imagine being smothered with 50 kisses blown at you from a room full of exuberant, happy, and appreciative people. This was our most sincere way of expressing our gratitude to our Special A Teacher Consultant.

The time has come. The workshop is over. I look, unbelievably, at all of the learning aids I constructed. Did I really accomplish all this in only three days! Now to pack all of my "goodies" into my R-Kive box and attempt to wend my way back to the car. We look like a group of tourists, laden with heavy gifts. The walk to the car is interrupted many times to hug, to exchange telephone numbers, to bend over to pick up a fallen item, and to wave farewell.

Farewell, Dear Diary,
From a tired, but inspired participant.

EVALUATION IN PROSE

This has been a most fulfilling experience. I cannot remember a time when I learned so much in the company of such talented individuals.

I certainly hope there will be more workshops. Other workshops have not come close to meeting needs as this one did. I wish we could continue for another week.

"...The enthusiasm of our Special A Teacher Consultant was highly contagious. We were all inspired to follow her splendid example in creating aids to meet our children's needs."

"...the teacher-made learning aids on exhibit were the best I have ever seen for our pupils. I will make and use many of them."

"...another workshop is a must..."

"...this experience has inspired me to be a better teacher..."

"...outstanding, fantastic..."

"...This has been one of the most thought provoking, practical workshops that I have attended. The hoarding of junk items over the years, is further proved to have not been in vain, inasmuch as I got so many ideas about producing extremely useful learning aids and experiences by the consultant presentations and shared ideas. Thank you all.

My sincere sentiments are.....

TERRIFIC!

B R A V O!!

ENCORE!!!

"...happy that workshop funds provided for materials and equipment necessary to construct good...teacher-made learning aids..."

EVALUATION IN POETRY

"One week of absorbing experiences galore,
Climaxed with goodies from our teachers' experience store.
Contact paper and bottles of plastic
Plus R-Kive boxes that make us look spastic.

Felt pens, clipboards, and tracer wheels
Gave us the courage to try our skills.
We used them, abused them, and finally found
That our creativity was on solid ground.

T-squares, markers, and brown plastic tape
From creativity we couldn't escape.
Make this, do that, the atmosphere urged
As under tracer wheels, felt and graph paper was purged.

From this experience we all agreed
That each day planted a most fertile seed.
These efforts will help each child to grow
And in this manner, our gratitude we'll show.

And as each of us departed,
I could hear him say--
'Twas terrific, fantastic--
Every single day."

DETROIT SPECIAL EDUCATION TEACHERS' WORKSHOP

"'Twas in August of summer, of seventy-three
When Detroit Special Ed. teachers came together to see
A workshop so splendid, and really just grand,
Quite filled with creations--the best in the land.

The room--just enormous--was set up like a Fair--
Really loaded with ideas--you should have been there!
The great Special A teacher had worked hard and long,
Producing aids so effective, children couldn't go wrong!

For reading, for writing, to learn A-B-C's
For matching, for patching, to count 1-2-3's!
To learn parts of the body, to learn left from right--
Whatever the problem, learning aids were in sight!

Special teachers are special, as everyone knows,
Helping children develop makes all our hearts glow.
It was fun finding ways our children to reach,
When their "lights go on", it's a pleasure to teach!

The teachers came early to learn how to make
Devices of all kinds, for their classes' sake.
Most of us had gone to workshops before,
But never like this, we'd really like more!

EVALUATION IN POETRY continued--

It was a genuine pleasure, and really great fun--
Warm feelings were felt by just everyone!
Inspiration just flowed, from our leaders to us--
The experience was unique, as we all discussed.

For this great opportunity we all truly feel
Thankful to those who made it possible and real;
To supervisors and consultants, we sincerely mean:
YOU'RE ALL REALLY GREAT, TO MAKE THIS BIG SCENE!"